

Restriction Requirement

The Office has identified two groups of claims of which Applicant has provisionally elected Group I (Claims 1-16) with traverse. The Office finds that the composite of Claims 17-19 is capable of manufacture by means other than that of the process of Claim 1. The Examiner suggests extrusion foaming a mixture of polymer and reinforcing fiber. Being unaware of a process of extruding a mixture of polymer and reinforcing fiber capable of preparing a composite containing an expanded composite web (evidenced by, *e.g.*, a dispersed low binder fiber mat and support mat), Applicant must respectfully disagree and respectfully requests reconsideration under 37 CFR §1.143.

The process suggested by the Office may result in a foam comprising dispersed fibers, but Applicant fails to identify in the Office's example an expanded composite web. The composite of Claims 17-19 require the presence of an expanded composite web as evidenced by the presence of a support mat and an expanded low binder fiber mat. Hence, Claims 17-19 specifically require incorporation of the fibers in the claimed composite by means of expanding a fiber mat which is part of a composite web. Applicant is unaware of any process by which one may extrude an expandable or expanded fiber mat (in contrast to individual fibers), let alone a composite web, with a foaming mixture.

Beyond the means of how the fibers are incorporated into the claimed composite, the claimed composite is distinguishable on its own right from a composite resulting from extrusion of a mixture of fibers and foamable formulation. An expanded fiber mat typically retains some degree of association amongst the fibers and typically incorporates relatively long fibers. In contrast, a simple extruded mixture of fibers and foaming mixture would be difficult, if at all possible, with long fibers and does not have any association amongst the fibers. In sum, the presently claimed composite must contain a substantially dispersed low binder fiber mat as well as a support mat as evidence of an expanded composite web. The example suggested by the Examiner does not appear to meet that requirement.

Applicant respectfully requests withdrawal of the restriction requirement and reinstatement of Claims 17-19. Alternatively, Applicant respectfully requests the Examiner provide a more concrete exemplary process illustrating how to prepare the

composite of Claims 17-19, a composite containing an expanded fiber mat that is part of an expanded composite web, apart from the process of Claim 1.

Claim Rejections under 35 USC §112

Claims 9 and 10 stand rejected as being indefinite under 35 USC §112. The Office finds the phrase “disposed on a second support mat that is permeable by the foamable mixture” to be unclear. Based on the assumption the Examiner makes for examination, the lack of clarity appears to stem from Applicant’s use of “permeable by” instead of “permeable to.” Applicant respectfully traverses the present rejection.

Applicant encloses with the present Response a copy of Merriam-Webster’s definition of “permeable,” which is: *Capable of being permeated*. Incorporation of this definition into Applicant’s original phrasing “permeable by the foamable mixture” results in the clear characterization: “capable of being permeated by the foamable mixture.” In contrast, the wording “permeated to the foamable mixture” is less clear, becoming: “capable of being permeated to the foamable mixture.” Applicant finds their original wording as having a clear meaning. Therefore, Applicant respectfully requests withdrawal of this rejection or further explanation of where a lack of clarity resides.

35 USC §102(b) Rejection – US 5, 837,743

Claims 1-16 stand rejected as anticipated by US 5, 387,743 (‘743). Applicant respectfully traverses the rejection.

Each of Claims 1-16 requires use of a “composite web” that comprises a low binder fiber mat and a support mat. The composite web is an essential component to the present process and provides a technological advancement over other means of processing a low binder fiber mat – resolving difficulties associated with other methods of handling low binder fiber mats (*see*, page 4, lines 7-22 of the present Application). Highlights of the advantages of using a composite web over, *e.g.*, utilizing a low binder fiber mat alone apart from the support mat, include: reduction in stretching of the mat to eliminate observable necking or ridging, pulling apart of the fiber mat upon unrolling, and contact of the fibers of the fiber mat with process rollers during processing (which can cause fouling of the rollers).

'743 may disclose use of a reinforcement web that may qualify as a "low binder" fiber mat, but fails to disclose or even suggest the use of a composite web. As a result, the process of '743 falls subject to the handicaps resolved by the presently claimed invention's use of a composite web. '743 only discloses incorporation of reinforcement web 48, 52, and 52' by unrolling each web from their own roll 49, 53, and 53' respectively. As such, the problem of pulling fibers apart upon unrolling remains. Furthermore, '743 discloses running the reinforcement web against rollers prior to combining with other elements in the process (*see*, Fig. 1 and Fig. 2). As a result, fiber contact with process rollers remains. Additionally, since the process of '743 draws the reinforcement web off from its own roll and around process rollers without the support of a support mat, stretching may occur resulting in necking or ridging of a low binder reinforcement web. '743 fails to recognize the problems that the present invention resolves by using the composite web, let alone suggest the solution the present invention provides. Since each of Claim 1-16 requires use of a composite web and '743 fails to disclose or suggest use of a composite web, Applicant believes each of Claims 1-16 are novel and inventive over '743.

Similarly, Claims 17-19 require the presence of an expanded composite web. Since '743 does not teach or suggest use of a composite web, Applicant believes Claims 17-19 are patentable over '743.

35 USC §102(b) Rejection – US 4,572,865

Claims 1-16 stand rejected as anticipated by US 4,572,865 ('865). Applicant respectfully traverses the rejection.

As with '743, '865 fails to disclose or suggest use of a composite web when introducing a reinforcing web into a foaming process. The figures of '865 are similar to those of '743 – revealing the same problems of '743 that the presently claimed use of a composite web resolves.

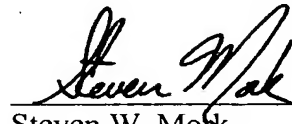
Furthermore, Applicant fails to find any reference in '865 of dispersed fiber in a foam. While '865 discloses the use of a reinforcing web, it distinctly teaches that "[u]nder the influence of the expanding froth, reinforcing mats 69 and 69' are pushed to positions adjacent facing mats 38 and 38'", respectively, in the resulting structural

laminate.” (column 9, lines 44-47, emphasis added). ‘865 discloses pushing a reinforcing web that adjacent to a facing mat during foam expansion. Such a requirement conflicts with dispersing the fiber mat within the foam. The ‘865 process does not disperse the fibers within the foam, rather displaces the entire mat against a facing mat. In contrast, each of Claims 1-16 requires dispersing a low binder fiber mat within a polymeric foam.

For at least these reasons, Applicant believes Claims 1-16 are patentable over ‘865. Additionally, Claims 17-19 require the presence of an expanded composite mat, including a low binder fiber mat substantially distributed within a reinforced polymeric foam. Therefore, Applicant believes Claims 17-19 are patentable over ‘865 for the same reasons as Claims 1-16.

In view of these remarks, Applicant respectfully requests reconsideration of Claims 1-19 of the present Application, withdrawal of all rejections and the restriction requirement and that these same claims receive a notice of allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven W. Mork", is written over a horizontal line.

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